

Appl. No. 09/846,582

Reply to Office action of June 18, 2004

IN THE CLAIMS

We claim:

1. (Original) A method for manufacturing a liquid crystal display device having a contrast-setting circuit and a printed circuit flex, comprising:

beginning assembly of the liquid crystal display device such that at least a portion of the contrast-setting circuit extends onto a portion of the printed circuit flex, the portion of the contrast-setting circuit having a first state and a second state, the first state being associated with a first adjustment of the contrast-setting circuit, the second state being associated with a second adjustment of the contrast-setting circuit; and

at a stage of the assembly of the liquid crystal display device:

testing a current contrast of the liquid crystal display device to determine an amount of deviation of the current contrast from an intended contrast, and

if the current contrast of the liquid crystal display device deviates from the intended contrast, modifying the portion of the printed circuit flex such that the portion of the contrast-setting circuit changes from the first state to the second state.

2. (Original) The method of claim 1 wherein the contrast-setting circuit further comprises a voltage divider including at least two components, the portion of the contrast-setting circuit being associated with one of the two components, the first state of the contrast-setting circuit being associated with the portion of the contrast-setting circuit causing the one component to be bypassed in the contrast-setting circuit.

3. (Original) The method of claim 2 wherein the second state of the contrast-setting circuit is associated with the portion of the contrast-setting circuit not causing the one component to be bypassed in the contrast-setting circuit.

4. (Original) The method of claim 3 wherein the at least two components comprise resistive components.

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5. (Original) The method of claim 3 wherein the portion of the contrast-setting circuit comprises a shunt around the one component.
6. (Original) The method of claim 5 wherein modifying the portion of the printed circuit flex comprises altering the shunt such that the contrast-setting circuit changes from the first state to the second state.
7. (Original) The method of claim 6 wherein altering the shunt comprises severing a trace on the printed circuit flex.
8. (Original) The method of claim 1 wherein the portion of the printed circuit flex comprises a trace that acts as a shunt to short circuit a component of the contrast-setting circuit and wherein modifying the portion of the printed circuit flex comprises severing the trace.
9. (Original) The method of claim 8 wherein the contrast-setting circuit comprises a voltage divider subcircuit and wherein the component comprises a resistor within the voltage divider.
10. (Original) A LCD device manufactured in accordance with the method of claim 1.
11. (Original) A liquid crystal display (LCD) device, comprising:  
a contrast-setting circuit for setting a contrast of an LCD panel associated with the LCD device, the contrast setting circuit including a voltage divider circuit having an output voltage determined by a ratio of a first resistive subcircuit to a second resistive subcircuit, the second resistive subcircuit including at least two resistive components, at least one of the resistive components having an initially shorted state such that the at least one resistive component initially provides an insignificant amount of influence on the voltage divider circuit, the at least one resistive component being configured to influence the voltage divider circuit when a shunt associated with the at least one resistive component is severed.

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12. (Original) The LCD device of claim 11 wherein the shunt associated with the at least one resistive component has been severed, thereby adding the influence of the at least one resistive component to the voltage divider circuit.

13. (Original) The LCD device of claim 11 wherein the second resistive subcircuit further comprises at least four resistive components, at least three of the resistive components each having an associated shunt that initially short circuits each of the at least three resistive components.

14. (Original) The LCD device of claim 13 wherein the at least three resistive components each comprise a different resistive value.

15. (Original) The LCD device of claim 14 wherein a first of the different resistive values is an even multiple of another of the different resistive values.

16. (Original) The LCD device of claim 15 wherein the different resistive values increase in multiples of each lesser resistive value.

17. (Original) The LCD device of claim 11, further comprising a substrate on which resides the contrast-setting circuit, the substrate including a stub on which extends the shunt associated with the at least one resistive component, wherein severing the stub results in the shunt being severed.

18. (Original) The LCD device of claim 17 wherein the substrate includes another separate stub for each of the at least one resistive components.

19. (Original) The LCD device of claim 11 wherein the contrast-setting circuit resides in a printed circuit flex including a portion that is severable from the remainder of the printed circuit flex, the shunt extending onto the severable portion.

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20. (Original) The LCD device of claim 19 wherein the printed circuit flex further comprises a plurality of portions that are severable from the remainder of the printed circuit flex, each of the plurality of portions being associate with a different of the at least one resistive components having the initially shorted state.